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ABSTRACT

The effects of a self-recording procedure on time on task and academic productivity of two institutionalized behavior disordered adolescents were investigated. Daily observations were made using time sampling to assess attention to task, and the number of mathematics problems solved correctly was recorded. Treatment encouraged the use of a self-report procedure for on-task behavior. Dramatic increases for both Ss in attending to task were noted when the self-recording procedure was initiated. Consistent academic productivity gains for one S were also revealed. Findings replicated previous studies and suggested that self-recording procedures may also be useful in preventing disruptive behaviors. (CL)

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Effects of a Self-Recording Procedure on the Attending to Task Behavior and Academic Productivity of Institutionalized, Severe Behavior Disordered Adolescents

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The ability to attend to task is widely recognized as important to both increase academic productivity and prevent the occurrence of inappropriate behavior. Yet, many behavior disordered children and youth appear to be deficient in this behavior. To date, however, there has been apparently an absence of applied treatment research. The present investigations analyze the effects of a self-recording procedure on attending to task. Results strongly suggest that this procedure may be appropriate to increase both attending to task behavior and academic productivity of institutionalized severe behavior disordered adolescents.

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EC 162471

INTRODUCTION

It is generally accepted that attending to task is a prerequisite to successful academic performance. Yet, inadequate attending skills are frequently listed as characterizing many children and youth with behavior disorders (Cullinan & Epstein, 1982; Quay, 1979; Telford & Sawrey, 1981). Lack of attending skills may not only result in a depressed rate of productivity but may also result in inappropriate classroom behavior which may have an adverse impact upon the student and his/her peers in classroom performance.

Fagen and Long (1976) advocated that the teaching of self-control skills is an essential component in treatment procedures for students with behavioral deficits and/or excesses. Hobbs (1966) indicated that a behaviorally disordered student "..... has fewer degrees of freedom in behavior than the normal child, yet he is not without the ability to shape his own behavior by self-administered verbal instruction. He can signal to himself if he can learn what the useful signals are". Strategies which can both teach students self-control skills and facilitate age-appropriate socially acceptable behavior in academic settings would be a welcome addition to teachers' skills repertoires.

Recently the use of self-recording procedures has been demonstrated to result in beneficial gains in level of attending to task (Broden, Hall, & Mitts, 1971; Glynn & Thomas, 1974; Glynn, Thomas, & Shee, 1973; Hallahan, Lloyd, Kasiewicz, Kauffman, & Graves, 1979; Hallahan, Marshall, & Lloyd, 1981; Thomas, 1976; Young, Birnbrauer, & Sanson-Fisher, 1977). Self-recording requires

the student to determine whether he has emitted a particular behavior and then record the occurrence or non-occurrence of that behavior. Nelson (1977) found that students often change their behavior when they start to self-record regardless of whether they had been emitting a particular behavior.

Most of the research to date on the effects of self-recording has been done with students identified as learning disabled. No research was found which implemented a self-recording procedure with students identified as severe behaviorally disordered to ascertain its effects upon rate of attending to task behaviors or academic productivity. Also, no research was found which utilized this procedure with institutionalized, secondary youth.

The present investigations were designed to determine if institutionalized, severe behavior disordered adolescents would significantly increase the amount of time they spent on-task and academic productivity when utilizing a self-recording procedure. In both investigations a withdrawal design was implemented to demonstrate experimental control. The same procedures were followed in both experiments.

EXPERIMENT 1

METHOD

Subject and Setting

Jim, a 15 year old boy, served as the subject. He was carrying a diagnosis (DSM-III) of Schizophrenia, Undifferentiated Type. He had recently moved to the midwest from the East Coast and school records were non-existent. Available psychiatric records indicated that he had been hospitalized on three previous occasions

for in-patient psychiatric treatment and suggested that he had infrequently attended school for several years. Although his measured intellectual ability indicated that he was moderately mentally retarded, the professional staff believed that he possessed at least low-average intelligence. There was a history of psychiatric disorders in the family. Academically, he was functioning in the mid-first to mid-second grade level.

Jim attended classes in a self-contained room for behavior disordered adolescents with three other students in a school located on the grounds of a state institution for the mentally ill. Observations and experimental programming were conducted daily during his mathematics period. The classroom was staffed by a teacher and two aides.

Recording Procedures

Observations were conducted daily during the investigation. A five-second time-sampling procedure was utilized to assess attending to task. If Jim was observed to be attending to task at the end of the five-second interval, the interval was scored as "attending". Attending to task was defined as "looking at his worksheet, sitting in his seat, writing on his worksheet, and remaining quiet". All other behaviors were scored as non-attending. Interobserver reliability was obtained on a minimum of 25% of all conditions. It ranged from 85% to 96% with a mean of 92%.

The observer also recorded the number of auditory cues from the audio-cassette tape Jim received during the treatment conditions.

This provided a method of comparison with the number of occasions Jim self-recorded.

Academic productivity was assessed by collecting Jim's paper at the end of each observation session. These were scored by an aide and interobserver reliability computed on 33%. Both the number of problems attempted and solved correctly were recorded. Interobserver reliability was 100% for both the number of problems attempted and solved correctly.

Design

A withdrawal design was implemented to assess the self-recording procedure. Baseline was followed by the Treatment Phase, a return to Baseline conditions, and a return to the Treatment Phase.

Baseline

During this phase, as with all phases of the investigation, Jim was asked to sit in his seat and complete a packet of mathematics worksheets. At the end of 20 minutes the packet was picked up and later scored.

Treatment

During the treatment phase, a cassette recorder with a specially prepared tape was placed on a bookshelf in close proximity to Jim's desk. A 5" x 8" grid card was taped on his desk. He was told that periodically he would hear a beep from the recorder. When he heard a beep he was to stop and mark a "+" on the grid card if he thought he was working on his worksheets or a "-" if he thought he was not working on the worksheets. The procedure was

modeled by the teacher until Jim could correctly carry it out. At the end of 20 minutes the packet was picked up and later scored.

Withdrawal

During the withdrawal phase, Jim was told that it was no longer necessary for him to use the cassette recorder. Conditions were the same as the Baseline Phase.

Treatment

Jim was told that the use of the tape recorder was going to be reinstated. All other conditions were the same as Baseline Phase.

RESULTS

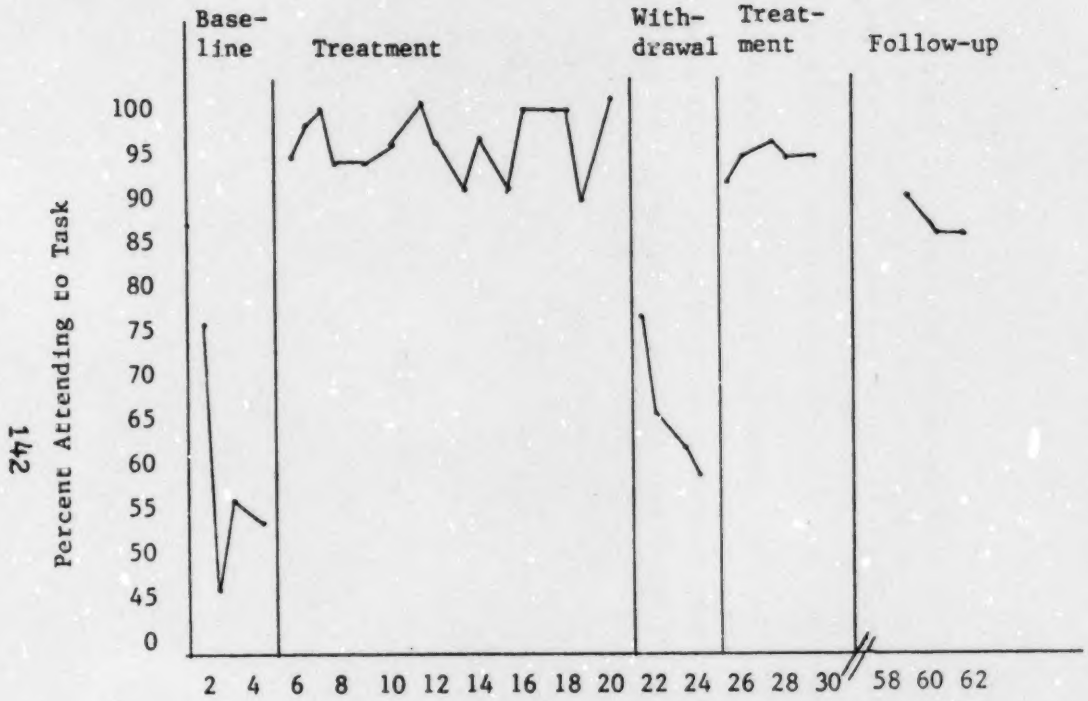
Attending to Task

The results of the self-recording procedure on attending to task are depicted in Figure 1. It is evident that the treatment procedure resulted in a quick and marked increase in Jim's attending to task behavior. The mean percent of attending to task during Baseline was 57%. When Treatment was initiated, it increased to a mean of 95%.

Insert Figure 1 about here

A return to baseline conditions during the Withdrawal phase resulted in a swift decrease in attending behaviors. Attending to task decreased from the Treatment mean of 95% to a mean of 63%. Reinstatement of the Treatment procedure resulted in another rapid and significant increase to a mean of 93% attending to task.

Probes taken on three consecutive days, 30 days after completion of the investigation indicated maintenance of treatment effects. The


Base-
line
Treatment
With-
drawal
Treat-
ment
Follow-up
Percent Attending to Task
100
95
90
85
80
75
70
65
60
55
50
45
0
2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 58 60 62

142

Figure 1

mean rate of attending to task was 87%.

Insert Figure 2 about here

Academic Productivity

As indicated in Figure 2, the mean number of mathematic problems computed correctly during Baseline phase was 14. Jim's performance increased to a mean of 120 problems computed correctly during the first Treatment phase. His performance decreased to a mean of 45 during the Withdrawal phase and again increased to a mean of 112 when Treatment was reinstated.

EXPERIMENT 2

The second experiment was conducted to replicate the findings of Experiment 1 on a more severely and chronically disturbed adolescent whose behavior was more disruptive to the classroom environment.

Subject and Setting

Harold was a 17 year old who had a history of disordered behavior dating back to second grade. He had been institutionalized for 3 years in a state institution for the mentally ill. He was carrying a diagnosis of Schizophrenia, Undifferentiated (DSM III) Type. He was so disturbed and his behavior so bizarre that standard assessments could not be conducted. All observations were conducted in the classroom while he worked on computing basic mathematic problems.

Recording Procedure

A five-second time-sampling procedure was utilized to assess

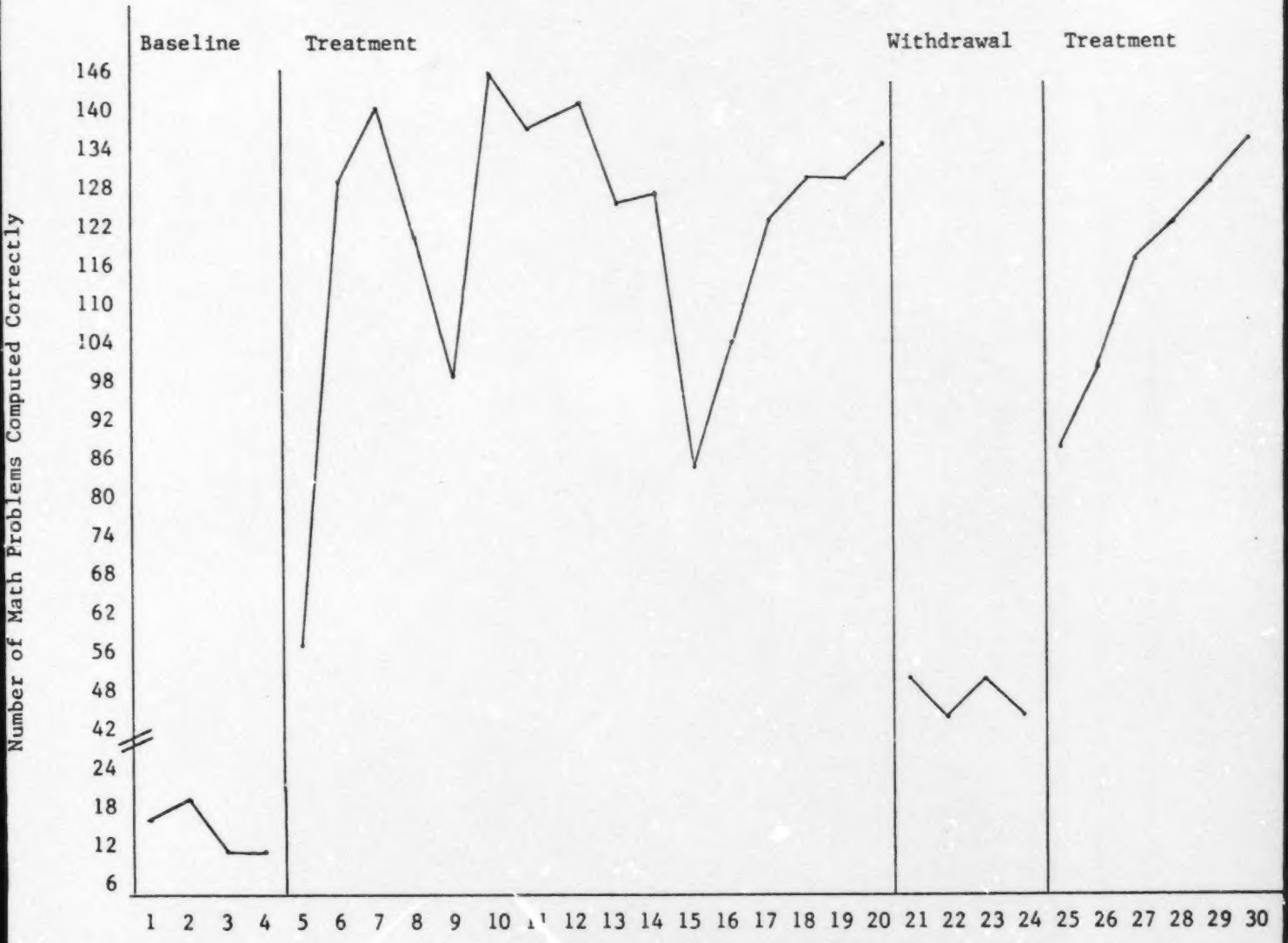

Baseline
Treatment
Withdrawal
Treatment
Number of Math Problems Computed Correctly
146
140
134
128
122
116
110
104
98
92
86
80
74
68
62
56
48
42
24
18
12
6
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

Figure 2

Harold's attending to task. Interobserver reliability was computed for 25% of the observational periods. It ranged from 88% to 96% with a mean of 92% agreement. The number of problems attempted and computed correctly was recorded and 33% selected for interobserver reliability checks. Interobserver reliability was 100% for both number attempted and computed correctly.

RESULTS

Attending to Task

During Baseline, Harold attended to task a mean of 51% of the time as depicted in Figure 3. Much variability, however, was evidenced. When Treatment was implemented, his attending to task increased swiftly and significantly to a mean of 95% with little variability present. During the Withdrawal phase, his attending to task behavior decreased to a mean of 55%. It increased dramatically again to a mean of 94% when Treatment was reinstated.

Insert Figure 3 about here

Academic Productivity

The number of mathematics problems computed correctly increased from a mean of 22 during Baseline to a mean of 57 during Treatment. During the Withdrawal phase, there was a decrease to a mean of 25 problems computed correctly. That increased to 55 when Treatment was again implemented. Much variability in number of problems computed correctly was evidenced throughout all phases.

Insert Figure 4 about here

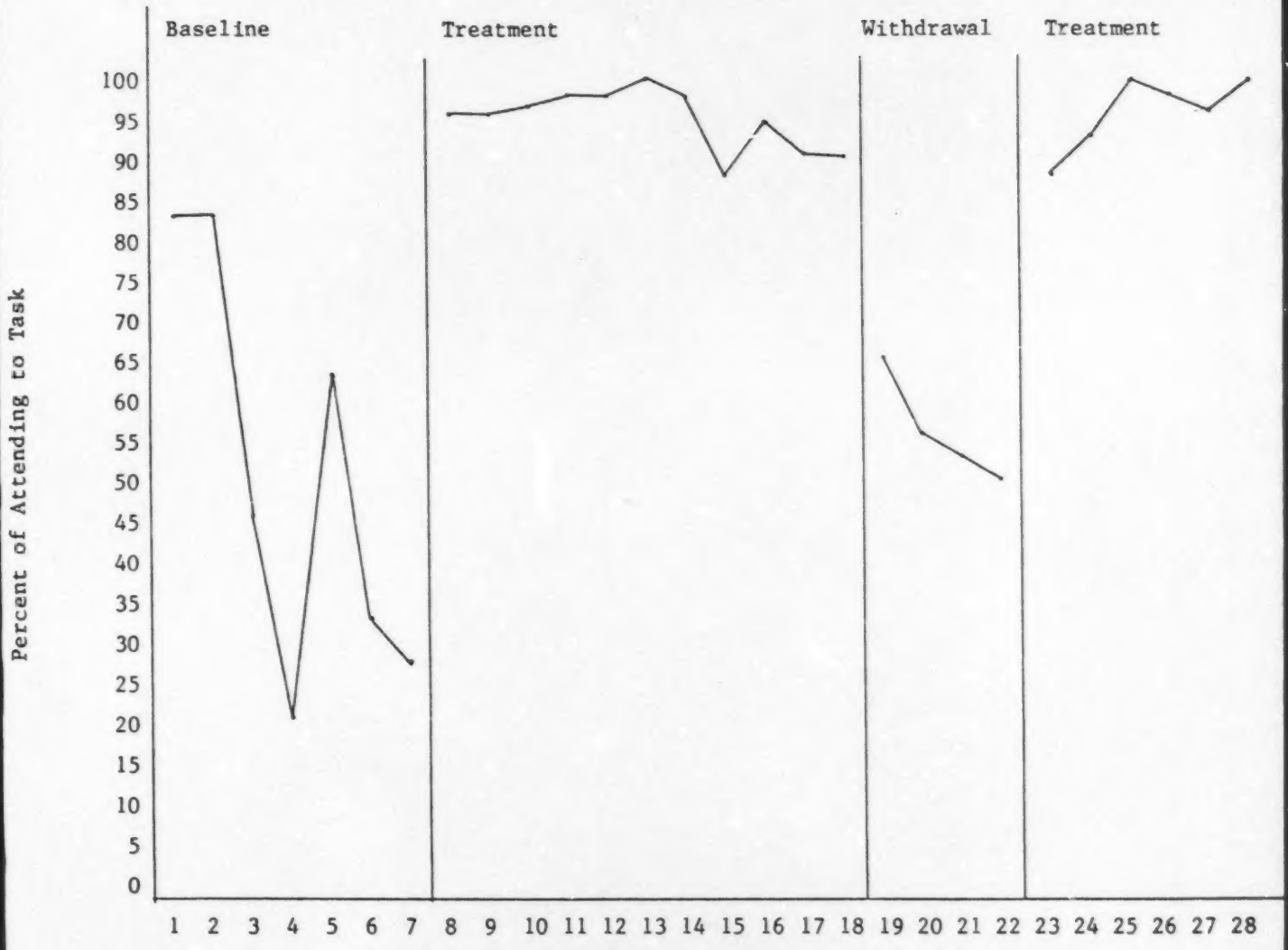

Baseline
Treatment
Withdrawal
Treatment
Percent of Attending to Task
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

Figure 3

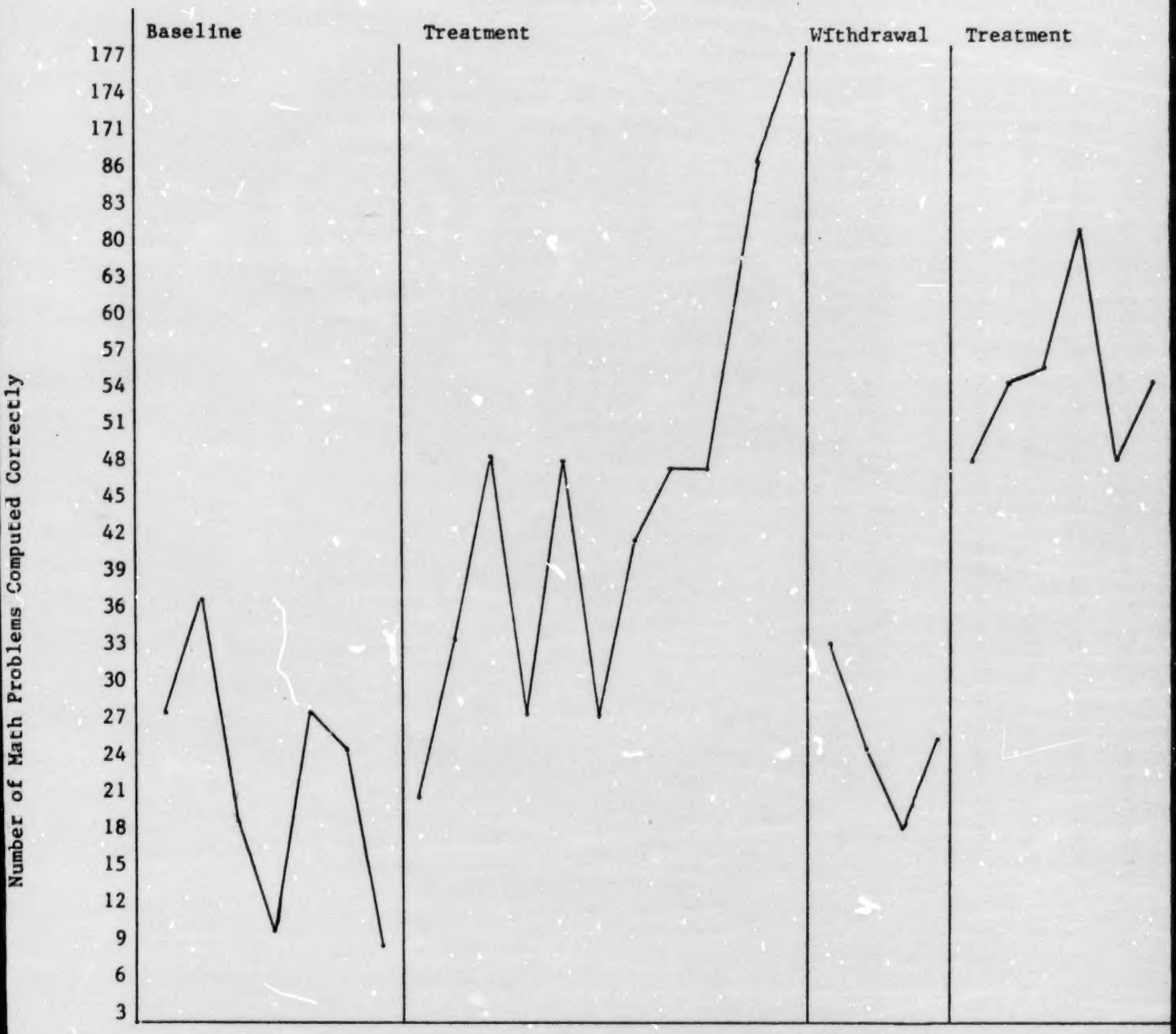

Baseline
Treatment
Withdrawal
Treatment
Number of Math Problems Computed Correctly
177
174
171
86
83
80
63
60
57
54
51
48
45
42
39
36
33
30
27
24
21
18
15
12
9
6
3
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

Figure 4

SUMMARY

The results of these two experiments replicate those obtained by other researchers working with different populations (Broden, Hall, & Mitts, 1971; Glynn & Thomas, 1974; Glynn, Thomas, & Shee, 1973; Hallahan, Lloyd, Kasiewicz, Kauffman, & Graves, 1979; Hallahan, Marshall, & Lloyd, 1981; Thomas, 1976; Young, Birnbrauer, & Sanson-Fisher, 1977). They do, however, go beyond those and strongly suggest that the use of self-recording procedures may result in beneficial effects in increasing the amount of time institutionalized, severe behavior disordered adolescents spend attending to task. The technique may also be useful in preventing the occurrence of behaviors likely to disrupt the classroom environment.

While a relatively consistent pattern of academic productivity was obtained from Jim, much variation was evident in Harold's performance throughout all phases of the experiment. A significant improvement did, however, result whenever treatment was initiated. Thus, there did not appear to be a consistently high correlation between attending to task behavior and academic productivity. Additional research is required to better understand this relationship.

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